

# THE SPRINGS IN ROLD FOREST



**A FOREST  
FULL OF SPRINGS**

# THE AREA'S FANTASTIC SPRINGS



*Small aquatic plants burst through  
Store Blåkilde's clear water*

# NORTHERN EUROPE'S MOST WATER-RICH SPRINGS

## WHERE DOES THE SPRINGS COME FROM?

Rold Forest's springs are among the most water-rich in Northern Europe. The numerous springs in Rold Forest are due to the high-lying limestone in the subsoil, which allows groundwater to easily seep up. The massive pressure in the subsoil pushes the water up through the ground, manifesting as the springs we know today.



*Store Blåkilde is a Basin spring*

There is a rich wildlife in the springs, and some special species even have traces dating back to the Ice Age because the flow of the springs is quite constant, and the water maintains a temperature of 7-8 degrees Celsius all year round. When there is frost, the spring is still 7-8 degrees warm, which can make it appear as if the spring is steaming.

All springs are protected, and it is therefore not permitted to collect animals and plants from them. The area's springs vary greatly in appearance and type



*Kovads Bæk is a collection of many small swamp springs*

## THE THREE TYPES OF SPRINGS IN ROLD FOREST

**Stream spring**, where water gushes out from the earth's interior at one or more points. The outflow of the spring often has a fast current, and the bottom is rocky or made of other coarse material. For example, Lille Blåkilde is a stream spring.

**Basin spring**, where water gushes from the sides or bottom of a bowl-shaped, water-filled depression. In the basin, the current is not very strong, and the bottom often consists of sand and silt. The outflow of the spring is quite wide, and the flow rate here is moderate. Store Blåkilde is a well-known example of a basin spring.

**Swamp Spring**, where water gushes through the surface over a larger area. This creates a large swamp area covered with moss and swamp plants. Kovads Bæk is an example of a swamp spring.

# THE FAMOUS SPRINGS

## STORE BLÅKILDE

Store Blåkilde ( Big Blue Spring) is a basin spring and it has a water supply of 80 liters per second.

Previously, the spring was considered the most water-rich of the springs in the Rold Forest area, with 300 liters per second, but this only applies if one includes the many smaller springs in the main spring's outflow.

The spring is located southwest of Madum Sø, just south of the forest area Kærbjerg Skov.



*On a sunny day, the bottom of the spring shines through the clear water.*

The basin's shape is almost oval. It is approximately 12 meters wide and has a depth of 4-5 meters. From the bottom, water gushes up from several small craters with such force that, with a bit of luck, one can make a light coin float in the current above the craters.

The basin bottom is partly made of chalk, and on a calm, sunny day, blue colors ranging from sapphire to turquoise shine up through the clear water.

The outflow from the spring is relatively wide and flows calmly, and a few meters down the outflow, several small springs can be seen, which eventually merge into Villestrup Å.



*The chalk that partly covers the bottom of the spring is the reason for its glowing blue color.*

The clear blue water likely gave the spring its name, but the name Blåkilde might also be derived from the word "blotkilde" (sacrificial spring). In the previous century, it was customary for the noblemen from the nearby Willestrup Slot to throw silver coins into the spring before they rode out for a hunt. The movements of the coins in the water were believed to predict the outcome of the hunt. Perhaps a small treasure is hidden in the spring's flow?

If you want to see the spring's location, you can find it on the map at the back of this booklet.

# THE FAMOUS SPRINGS

## LILLE BLÅKILDE

Lille Blåkilde is the largest of the springs in the Rold Forest area and is located north of Nørreskov. The water flow is up to 150 liters per second, and the spring drains an area of 10-12 square kilometers. The spring is a combination of a swamp spring and a stream spring, with water flowing out through several small craters. The outflow of the spring is located about 70 meters from Lindenberg Å.



*The spring water flows out from the chalk wall, and can be clearly seen on a visit to the spring.*

On cold winter days, the spring's water steams, as it maintains a temperature of around 7-8 degrees Celsius throughout the year. The water in Lille Blåkilde is, incidentally, the oldest spring water in Rold Forest.

In addition to common spring fauna, the spring is also known for its resident, the caddisfly larva *Apatania muliebris* a relic from the Ice Age. This species was first identified in 1930 by Dr. Phil. Anker

Nielsen. The species is usually found only in streams near the Arctic Ocean's coasts and in the fast mountain streams of Norway and the Alps. The larva's life cycle is well-suited to high Arctic conditions, where the short summer must be utilized, and winter halts life processes. However, in the spring, this life cycle is not strictly necessary, as wintertime can easily be utilized due to the constant temperature of 7-8 degrees. Additionally, a variety of common spring animals are also found here.

It is not known if the spring had religious significance in ancient times. A few hundred meters south of the spring are the remains of an ancient road, indicating human activity near the spring. The ancient road leads through the forest and out to the Gravlev Ådal, with a ford that can still be traced south of Lille Blåkilde's outflow into Lindenberg Å.



*The spring is crossed via the narrow bridge.*

# THE FAMOUS SPRINGS

## RAVNKILDEN

The spring is located northwest of Rebild Bakker. Ravnkilde is a swamp spring, where a large cut in the hillside forms the outer frame of this beautiful, distinctive spring. The bottom of the cut is covered with swampy mud, where water seeps out, gradually dividing into small streams. These small streams converge near the opening to form a brook that flows towards Lindenborg Å. This brook was previously regulated by irrigation channels but now has a new course towards the ford, where the water finds its own way across the meadow towards Lindenborg Å. The water flow is 85 liters per second.



*For centuries people have drunk the pure water.*

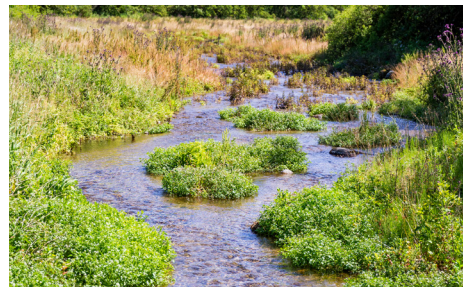
In winter, large trout can ascend the spring brook to take advantage of the ice-free water. The origin of the name Ravnkilde is unclear. One explanation could be that ravens used to nest in the area in older times. Ravens can still be found in Rold Forest today, for example, near Trolde skoven, Urskoven, and Skillingbro Kalkgrav.

## KOVADS BÆK

At the foot of Rebild Bakker, water gushes forth from many small swamp springs, which converge to form Kovads Bæk. In this area, a series of small springs come together to create the brook. Kovads Bæk is a swamp spring with a water flow of about 80-85 liters per second. The outflow streams northward, where it joins with the outflow from Ravnkilde to Lindenborg Å.

The spring is home to large quantities of the plant *Oenanthe aquatica*, which is highly toxic—even in its dried state. The clean water and the rocky bottom of the stream provide a habitat for many aquatic animals, including numerous rare species.

Additionally, the brook supports a population of brook trout, which spawn in only a few spring brooks in Denmark. Kovads Bæk is particularly worth visiting in winter, when sea trout can often be seen spawning in the clear water.



*The brook is an ideal spawning ground for sea trout, which swim here from the Limfjord.*

# THE FAMOUS SPRINGS



*Use the stepping stones to cross Ravnkilde, and feel free to fill your water bottle along the way.*

# THE FAMOUS SPRINGS

## GRAVLEV KILDE

At the foot of the church hill in Gravlev, a spring emerges. Gravlev Kilde is a large, beautiful basin spring. From the vantage point, about 15-20 meters up, the spring offers a fabulous view, appearing crystal blue with water pulsing up from the bottom, even though the basin was once created by digging for road materials.

A flow of 100-150 liters per second runs into Gravlev Lake, making the spring one of the largest in Denmark.

Gravlev Kilde served as a holy spring in the Middle Ages.

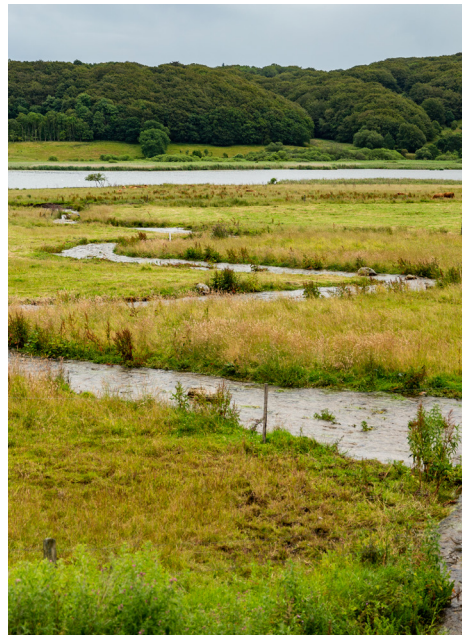


*The clear blue bottom shines through the water - a fantastic sight.*

In 1938, the main road was built over the spring, causing its source to be pushed eastward. For half a century, the spring fed a fish farm. Today, the beautiful

"natural" spring field below the basin and the meandering spring brook are the results of a nature restoration project carried out by the Danish Nature Agency in 1995.

If you visit the spring on a quiet winter day, you can see sea trout spawning in the spring brook.



*Gravlev Kilde's winding outflow towards Gravlev sø*



# THE FAMOUS SPRINGS

## SPRINGKILDEN

Springkilden is located in Rold Vesterskov at the bottom of the Lindenberg Ådal, a few meters off the road to the left. The forest is privately owned, so you must be aware of the rules for accessing private forests. You can read more about accessing private forests at [www.rebildporten.com](http://www.rebildporten.com) or [www.naturstyrelsen.dk](http://www.naturstyrelsen.dk).

As previously mentioned, there are only three types of springs: swamp, stream, and basin springs. Springkilden does not fit into any of these categories—therefore, it is not a spring in the traditional sense. Instead, Springkilden is a so-called “artesian well.”



*The water is pushed up through the iron pipe, and the spring's water gushes up from the underground.*

The water can “spring” because the groundwater stands higher inside the hill beside it. It is “trapped” by a water-retaining layer, such as clay. The clay acts as a layer above the groundwater.

When an iron pipe is driven into the ground and punctures the clay, the water is put under pressure and springs up. When people see the spring for the first time, they often say, “But it’s just a pipe stuck in the ground!” And that is exactly correct. But think about it—you can drive a thick iron pipe into the ground, and the water will spring up like a fountain.

In winter, Springkilden is something truly special. If there has been a hard frost, Springkilden forms an ice fountain.

# SEVERAL SPRINGS IN THE AREA

In the Rold area, there are many other springs besides those mentioned. Many of the smaller springs have never been closely examined for animal and plant life. Be aware that several of the springs are located on privately owned land or in privately owned forests, and therefore special rules for access apply and must be followed.

## BLÅHØL

Also known as "Kraniehølet," this spring is located west of Skindbjerg. Blåhøl is a basin spring of considerable size, and its water flow is likely comparable to that of Store Blåkilde. However, the spring is not very well known and is difficult to access, as there is no road leading to it, and it is located on private land. However, it can be passed by canoe on the Lindenberg Å.



*Blåhøl is beautiful, but difficult to reach.*

## SKILLINGBRO KILDE

Skillingbro Kilde is located behind Skillingbro Naturskole. The spring is a so-called artesian well, providing 25 liters of water per second. Like Springkilden, it is a man-made spring, where groundwater is pressed up through a pipe.

## LINDENBORG Å

Although Lindenberg Å is not a spring, it is still worth mentioning here. The river is quite water-rich and has a very consistent flow. The course of the river is very varied, with many meandering stretches in some places and straight stretches with fast currents in others.

The river is rich in fish and is frequently used by anglers. The river drains an area of about 225 square kilometers.

In addition to the springs mentioned in this folder, there are also springs such as Thingbæk Kilde, Rold Kildebæk, Stubberupvad, and many other smaller springs. You can read more about the area's springs, rivers, and lakes at [www.rebilporten.com](http://www.rebilporten.com).



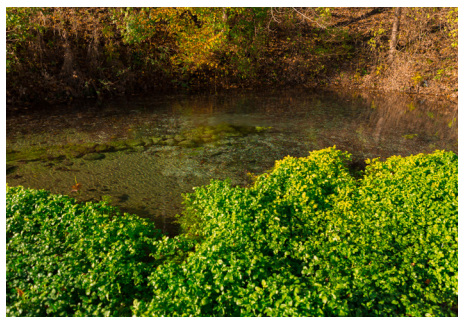
*It is a beautiful sight when the sky is reflected in the stream*

# FIND THE SPRINGS



# FIND THE SPRINGS

On the spring map on the previous page, you can see the locations of some of the forest springs. You can also learn much more about the springs at the spring exhibition in the Kildetårnet at the Rebild Center near Thingbæk Kalkminer



*At the Rebild Center, you will find Thingbæk Spring.*

## **SPRINGS IN PRIVATE FORESTS**

Remember that the springs in private forest areas are subject to the rules for access in private forests, which include that you may only walk on established roads and paths, and only from 6 AM to sunset. Read more about access in private and public forests at [www.rebildporten.com](http://www.rebildporten.com) or [www.naturstyrelsen.dk](http://www.naturstyrelsen.dk).

## **FIND THE COORDINATS OF THE SPRINGS**

At [www.rebildporten.com](http://www.rebildporten.com), you can also find the coordinats for the springs, which can help you locate the springs that are difficult to find.



# REBILDPORTEN

*Rold Skov · Rebild Bakker*

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